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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/624,456

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Donald A. Kerth

SILA:122

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10/23/2007

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EXAMINER

NGUYEN, LEE

ART UNIT

PAPER NUMBER

2618

MAIL DATE

DELIVERY MODE

10/23/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/624,456

**Applicant(s)**

KERTH ET AL.

**Examiner**

LEE NGUYEN

**Art Unit**

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This action is responsive to the communication filed 8/20/07.

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Fletcher (US 3,100,282).

Regarding claim 1, Fletcher teaches a converter in a radio-frequency (RF) apparatus, the converter comprising a feedback circuitry (30, 16, 10, 15, see figures 1-2, col. 2, lines 20-25) having a shielded input 32 and a shielded output 34, wherein the shielded input and the shielded output inherently tend to reduce interference in the converter.

Regarding claim 2, Fletcher teaches a first filter 11 coupled to the shielded input 32 of the feedback circuitry (30, figs. 1-2); and a second filter 34 coupled to the shielded output of the feedback circuitry (30, figs. 1-2).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 3-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fletcher et al. in view of Sander et al. (US 6,198,347)

Regarding claim 3, Fletcher teaches a method of reducing interference in a circuit in a radio-frequency (RF) apparatus, wherein the circuit 11, 12, 14 (fig. 2) has an input 32 and an output 34, the method comprising: shielding 32 an input of the circuit 11, 12, 14; and shielding 34 an output of the non-linear circuit 11, 12, 14 (fig. 2). Fletcher does not explicitly teach that the operational amplifier in the circuit is classified as class A or B

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(linear) or class C (non-linear). Sander et al teach that, depend on design choice, operational amplifiers can be either linear class A or B amplifier or non-linear class C amplifiers (col. 1, lines 27-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include non-linear circuit in the apparatus of Fletcher in order to reduce power consumption with a trading-off of linearity.

Regarding claim 4, Fletcher also teaches comprising filtering 11 an input signal supplied to the input of the non-linear circuit 11, 12, 14 (fig. 2).

Regarding claim 5, Fletcher teaches a radio-frequency (RF) apparatus, comprising:

- a signal-processing circuit (30, 16, 10, 15, fig. 2);

- a first shield 32 that shields an input of the signal-processing circuit (30, 16, 10, 15);

and

- a second shield 34 that shields an output of the signal-processing circuit (30, 16, 10, 15, fig. 2).

Fletcher does not explicitly teach that the operational amplifier in the circuit is classified as class A or B (linear) or class C (non-linear). Sander et al teach that, depend on design choice, operational amplifiers can be either linear class A or B amplifier or non-linear class C amplifiers (col. 1, lines 27-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include non-linear circuit in the apparatus of Fletcher in order to reduce power consumption with a trading-off of linearity.

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Regarding claims 6-11, Fletcher fail to teach that the non-linear signal-processing circuit comprises switched-capacitor circuitry, or noise-shaping converter circuitry, or analog-to-digital converter circuitry, or digital-to-analog converter circuitry, or multiplier circuitry, or modulator circuitry. However, Fletcher suggests that his invention also applies to other circuit units (col. 4, lines 71-74). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the shielding of Fletch to other circuits, thereby reducing influence of the electrostatic and electromagnetic fields occur at the circuit.

Regarding claim 12, Fletcher also teaches

a first filter 11 that filters an input signal 32 of the non-linear signal-processing circuit (30, 16, 10, 15, fig. 2); and

a second filter 14 that filters an output signal of the non-linear signal-processing circuit (30, 16, 10, 12, fig. 2).

Regarding claim 13, Fletcher also teaches that the first shield comprises a conduit 32, and that the second shield comprises a conduit 34.

Regarding claim 14, Fletcher further teaches that the first shield comprises a ground plane 35 (fig. 2),

and the second shield comprises a ground plane 35 (fig. 2), see col. 4, lines 50-53.

Regarding claims 15-17 and 20, the claims are interpreted and rejected for the same reason as set forth in claims 6-11.

Regarding claim 18, Fletcher also teaches shielding the input of the non-linear circuit comprises using a conduit 32, and wherein shielding the output of the non-linear circuit comprises using a conduit 34 (fig. 2).

Regarding claim 19, Fletcher further teaches that shielding the input of the non-linear circuit comprises using a ground plane 35 (fig. 2), and wherein shielding the output of the non-linear circuit comprises using a ground plane 35 (fig. 2), see col. 4, lines 50-53.

### ***Response to Arguments***

5. Applicant's arguments filed 8/20/07 have been fully considered but they are not persuasive.

In the remarks, Applicant contends that:

- 1) The transducer 10 of Fletcher cannot teach the claimed converter;
- 2) The office must show the feedback circuitry frequency (RF) apparatus," the Office must show how Fletcher's transducer 10 includes "a feedback

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circuitry having a shielded input and a shielded output, wherein the shielded input and the shielded output tend to reduce interference in the converter.";

3) The office does not properly take official notice; and

4) Fletcher amplifier is a linear amplifier, nowhere in the description suggest that a non-linear amplifier would operate properly in Fletcher's amplifier circuit.

In response:

Regarding point 1, as the name implied, the transducer is used to converted the input from one form into the output of another form. Therefore, the transducer of Fletcher reads on the claimed converter.

Regarding point 2, one having skilled in the art can recognize and understand that the transducer of Fletcher has a feedback loop as disclosed in column 2, lines 20-22, col. 3, lines 9-11), and that the feedback loop has a shield input and a shield output as demonstrated in col. 2, lines 22-25 and column 4, lines 44-47). Furthermore, the functional language of "tend to reduce interference" can be performed by shielded structure of Fletcher (see M.P.E.P §2114). In addition, the "wherein" clause is not given weight in this particular case (see M.P.E.P § 2111.04).

Regarding point 3, challenging with providing reference supporting the official notice taking is moot in view of Sander et al reference as demonstrated above.

Finally, regarding point 4, first Fletcher does not teach that his amplifier is a linear circuit. Second, as Sander et al suggest that an amplifier can be either class A (linear)



or class B and class C (non-linear) amplifier, it depends on the designer's choice (col. 1, lines 32-34).

From the above, the rejection is proper and should be sustained.

### ***Conclusion***

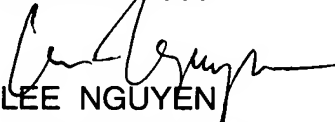
6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEE NGUYEN whose telephone number is 571-272-7854. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ANDERSON D. MATTHEW can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
LEE NGUYEN  
Primary Examiner  
Art Unit 2618